

INTERNATIONAL SEARCH REPORT

International Application No

PCT/EP 03/11910

A. CLASSIFICATION OF SUBJECT MATTER
IPC 7 C01B7/04

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
IPC 7 C01B

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

WPI Data, PAJ, EPO-Internal, CHEM ABS Data

C. DOCUMENTS CONSIDERED TO BE RELEVANT

| Category * | Citation of document, with indication, where appropriate, of the relevant passages | Relevant to claim No. |
|------------|--|-----------------------|
| X | US 2 542 961 A (CHERNIAVSKY ALEXANDER J ET AL) 20 February 1951 (1951-02-20) column 7, line 16 - line 24; claims; figure | 1,2,4,5 |
| Y | | 3,6 |
| Y | EP 0 618 170 A (BASF CORP) 5 October 1994 (1994-10-05) the whole document | 3,6 |
| Y | US 4 394 367 A (FOSTER ELTON G) 19 July 1983 (1983-07-19) column 1, line 16 - line 21; claims | 3,6 |
| Y | US 4 774 070 A (ITOH HIROYUKI ET AL) 27 September 1988 (1988-09-27) column 15, line 52 - line 61; claims -/- | 3,6 |

☒ Further documents are listed in the continuation of box C.

☒ Patent family members are listed in annex.

* Special categories of cited documents:

- *A* document defining the general state of the art which is not considered to be of particular relevance
- *E* earlier document but published on or after the international filing date
- *L* document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
- *O* document referring to an oral disclosure, use, exhibition or other means
- *P* document published prior to the international filing date but later than the priority date claimed

- *T* later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
- *X* document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
- *Y* document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.
- *G* document member of the same patent family

Date of the actual completion of the international search

31 March 2004

Date of mailing of the international search report

13/04/2004

Name and mailing address of the ISA

European Patent Office, P.B. 5818 Patentlaan 2
NL - 2280 HV Rijswijk
Tel. (+31-70) 340-2040, Tx. 31 651 epo nl,
Fax: (+31-70) 340-3016

Authorized officer

Zalm, W

INTERNATIONAL SEARCH REPORT

International Application No

PCT/EP 03/11910

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

| Category * | Citation of document, with indication, where appropriate, of the relevant passages | Relevant to claim No. |
|------------|--|-----------------------|
| A | US 2 312 952 A (BALCAR FREDERICK R) 2 March 1943 (1943-03-02) page 4, line 19 - line 39; claims ----- | 1-5 |
| A | EP 1 099 666 A (SUMITOMO CHEMICAL CO) 16 May 2001 (2001-05-16) ----- | |
| A | EP 0 765 838 A (BAYER AG) 2 April 1997 (1997-04-02) ----- | |

INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

PCT/EP 03/11910

| Patent document cited in search report | | Publication date | Patent family member(s) | Publication date |
|---|---|---------------------|--|--|
| US 2542961 | A | 20-02-1951 | NONE | |
| EP 0618170 | A | 05-10-1994 | AT 142168 T CA 2120289 A1 DE 69400452 D1 DE 69400452 T2 DK 618170 T3 EP 0618170 A1 ES 2091647 T3 US 5756063 A | 15-09-1996 01-10-1994 10-10-1996 27-02-1997 07-10-1996 05-10-1994 01-11-1996 26-05-1998 |
| US 4394367 | A | 19-07-1983 | NONE | |
| US 4774070 | A | 27-09-1988 | JP 1795132 C JP 5003402 B JP 62191403 A JP 1795137 C JP 5003404 B JP 62270404 A AU 571383 B2 AU 6873187 A BR 8700757 A CA 1260228 A1 CN 87101999 A , B DD 266083 A5 DE 3763399 D1 EP 0233773 A1 HU 47231 A2 IL 81532 A IN 169002 A1 KR 9000079 B1 JP 1795150 C JP 5003405 B JP 62275001 A JP 1888708 C JP 6017203 B JP 63045102 A | 28-10-1993 14-01-1993 21-08-1987 28-10-1993 14-01-1993 24-11-1987 14-04-1988 20-08-1987 22-12-1987 26-09-1989 30-09-1987 22-03-1989 02-08-1990 26-08-1987 28-02-1989 10-06-1990 10-08-1991 19-01-1990 28-10-1993 14-01-1993 30-11-1987 07-12-1994 09-03-1994 26-02-1988 |
| US 2312952 | A | 02-03-1943 | NONE | |
| EP 1099666 | A | 16-05-2001 | JP 2001139305 A CA 2325325 A1 CN 1295969 A EP 1099666 A1 | 22-05-2001 10-05-2001 23-05-2001 16-05-2001 |
| EP 0765838 | A | 02-04-1997 | DE 19535716 A1 AT 190588 T BR 9603885 A CA 2186206 A1 CN 1152544 A , B DE 59604659 D1 EP 0765838 A1 ES 2146343 T3 JP 9110402 A US 6387345 B1 | 27-03-1997 15-04-2000 02-06-1998 27-03-1997 25-06-1997 20-04-2000 02-04-1997 01-08-2000 28-04-1997 14-05-2002 |